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ABSTRACT

This paper describes two experiments designed to determine whether traditional effects of adult nurturance on children's incidental imitation could be obtained using a within-subject design and a functional (rather than operational) definition of nurturance. Four preschool children served as subjects, with four others serving as cross-sex companions. The companion child was never involved in any experimental manipulations but was included to reduce situational demand characteristics. Two male undergraduates established histories of nurturant or nonnurturant interactions with the subject children. Each child was asked to choose which of the two adult males he or she wanted to work with, to sort colored tokens into a box, and to draw something with one of four colored crayons after observing the two adult males drawing with the crayons. Results showed that the positive (nurturant) adults were consistently able to develop and maintain higher response rates on the sorting task than the neutral (nonnurturant) adults and that their nurturance was reciprocated by social preference. However, clear incidental imitation of the adult's crayon choices was shown by only one child, while picture content imitation was even more weakly displayed. (JMB)

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An Analysis of Adult Interaction Styles and Children's Incidental Imitation

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Introduction

Social learning theory posits that incidental imitation is a basic developmental process, and many investigators have suggested that a history of adult nurturance and affection facilitates this process -- theoretical rationale for which lies in both the Freudian and social learning theories of identification and incidental imitation have even been seen as synonymous. To date, the effects of adult nurturance on incidental imitation have consistently yielded positive results (Stevenson, 1972).

The general research strategies of the nurturance-incidental imitation literature have undergone some changes. The early correlational-observational methods sought to demonstrate relationships between rating-measures of adult nurturance and rating-measures of children's behavior (e.g., identification) toward those adults. Later on, correlational-experimental investigations took similar measures of adult nurturance, but began relating them to laboratory derived measures of incidental imitation. In the more recent manipulative strategies, not only have direct measures of incidental imitation been used, but more important, the nurturant and non-nurturant relationships have been experimentally generated. These relationships have typically been established in terms of operationally and temporally defined nurturant patterns applied to one group (e.g., interactions with "warm and friendly" adults for 20 min.) and non-nurturant patterns applied to the same or another group (e.g., interactions with "cool and aloof" or noninteractive adult).

When nurturance has been operationally defined, one does not have a very precise idea of what actually has occurred. Operational definitions describe what happens to children, but not how they "perceive"

those happenings; hence, the functions of operations need to be evaluated. Nurturance or positive adult behavior is often defined in terms of its effectiveness as a reinforcer. One measure of nurturance, then, might be a demonstration that such interactions -- contingent adult comments in the present case -- can indeed maintain some amount of behavior. In addition, reciprocal evaluation by children of the adults would seem appropriate as a measure of their "perception" of the adults; thus, the children's ongoing preference for continued interactions with the adults was assessed. These two measures, then, -- reinforcer effectiveness and social preference -- were selected as the functional definition of nurturance used in this research.

The purpose of the present studies was to look more closely at the incidental imitation process and the effects of adult nurturance upon it. We asked whether similar nurturance effects could be obtained using a within-subjects design and a functional -- not merely operational -- definition of nurturance.

Experiment I

Method

Four preschool children served as subjects, while four others served as cross-sex companions. The basic procedures were identical for each subject. Each day a male escort brought a subject-companion pair to the experimental room. The companion child was never involved in any experimental manipulations, but was included to reduce situational demand characteristics. Two male undergraduates established histories of nurturant and nonnurturant interactions with the subject children. Two sessions were conducted each day, each comprising the successive entrance of the adults

for 2-min periods apiece; entrance order was counter-balanced. At the beginning of each day's two back-to-back sessions, the assistant instructed the subject to sort colored tokens into a box while he was gone. The adults who generated the functionally defined interactional histories used similar, pre-arranged drawing materials. Each one colored one of four geometric forms with one of four colored crayons. The form content of the drawings and crayon colors were counterbalanced between adults over repeated four-day blocks.

In order to evaluate and control for any pre-experimental adult control, an initial social preference probe was conducted with each child. The subject was asked, "Which of these two men would you like to work with?" The subject then selected one of the two adults by pointing to him. The results of these probes were used in assigning the adults their social interaction roles. The unpreferred adult became the positive or nurturant adult for that subject during the first and all subsequent sessions. This adult's interactions with the subject consisted of visual regard, smiles, and positive, supportive verbal comments (e.g., "Very good", "Great", "Tremendous"). These comments were made contingent on the first token-sort response in successive 15-sec intervals. This schedule limited the subject to a maximum of eight comments per session. The adult who was preferred in the pre-experimental probe was assigned to the neutral or non-interactive condition for that subject. This adult interacted solely with the companion child, ignoring the subject at all times. Though the relationships these adults established may appear limited, in the end they, in fact, did match or exceed the temporal parameters of previous research.

Social preference probes were conducted on completion of each day's

second session in order to assess the qualitative reinforcing effects of the two adults. The two adults re-entered the experimental room and stood opposite the subject. The assistant then asked the child to point to the man with whom he/she would like to work. Once the preference probe was completed, the assistant and the unpreferred adult left the room, while the preferred adult remained and interacted with the subject for an additional 30 sec according to his assigned role.

Once the social preference probe had been completed, the assistant re-entered the room and the adult departed. The subject was placed directly in front of the two adult drawings and given a clipboard with a clean sheet of paper and a choice of four crayons, two of which had been used by the adults that day. In doing this, the assistant asked the child to make a drawing of anything he/she liked. At the end of one minute the assistant re-entered the room and asked the subject, "What did you draw today?" He answered any response in a positive and interested manner.

The functional definition for adult nurturance was the selection of the positive adult on five successive occasions during which time the cumulative number of token-sort responses was higher for the positive or nurturant adult than for the neutral adult. For some children an additional reinforcer manipulation was necessary. In these latter cases, stick-on stars were attached to a small card in conjunction with contingent positive comments; the children were allowed to take the card with them when they left each day.

Observer reliability was 98% for tokens sorted, 97% for adult comments, 100% for crayon color choice and 88% for child drawing.

Results

The response rate data from the positive and neutral interaction histories have been graphed cumulatively for each child. The data point for any one session specifies the cumulative number of responses up to and including that session.

Insert Fig. 1 about here

The experimental manipulations were able to produce consistent positive adult control over each child's token-sorting responding. The letters on the table across the top of each subject's cumulative record refer to the children's relative preference for the positive or neutral adult at the end of every second session. The preferred adult appears on the top line of the table, while the unpreferred adult appears on the second line. These data indicate the development of the children's social preference for the positive adult over sessions.

The crayon choice imitation probes provided the children with a restricted number of selections. They could select one of four crayons, two of which had been used by the adults during that day's sessions. The data indicate that, given these restricted choices, only S1 showed incidental imitation of the positive adult over each of the five sessions meeting criteria for the functional definition of nurturance. S2 showed only slight incidental color choice imitation while the results of S3 and S4 were less conclusive. During the twenty sessions in which the nurturance criteria was met for the four subjects the positive adult was imitated on ten occasions and the neutral adult on five. The picture content imitation

allowed the children an unrestricted selection of responses. The data indicate that the children displayed little picture content imitation ov the five sessions defining functional nurturance. Only S1 showed any matching of form content with the positive adult; she never imitated the neutral adult.

Experiment II

In incidental imitation research, the presence or absence of the adult during the children's opportunity to engage in incidental imitation has not been systematically investigated. Bandura and Huston (1961) have suggested that imitation would be more likely in an adult's presence, thus this suggestion and those from other literatures led to the second experiment.

Method

The method for Experiment II was identical to Experiment I except for the incidental imitation assessment. The purpose of this study was to replicate the first, but with the adults present during imitation assessment. Thus, on the incidental imitation probe both adults re-entered the room with their respective drawings. The subject was seated in front of the two adults and was allowed to select a crayon and to make a drawing.

Observer reliability agreement percentages were 88% for token sorting, 90% for adult comments and 100% for crayon selection. There were no drawing content matches so reliability was not computed.

Results

Procedures used to establish the nurturant interactions were again uniformly effective. The response rate data showed that the positive adult could consistently maintain higher rates than the neutral adult. The children showed reciprocal social preference for the positive adult; however,

supplemental manipulations had to be made in two cases. Despite the presence of the two adults, data from the incidental imitation probes indicates that no more imitation was observed in Experiment II when the adults were present than in Experiment I when the adults were absent. Overall, in Experiment II the children matched the selection of the positive adults six times and those of the neutral adults four times.

Discussion

Despite the development of functional adult nurturance, the incidental imitation data did not show the clear relationship so often reported in the literature. The results from both experiments show that positive adults were consistently able to develop and maintain higher response rates than neutral adults. In return, their nurturance was reciprocated by social preference. However, clear incidental imitation of the adult's crayon choices was shown by only one child, while picture content imitation was even more weakly displayed.

The relationship between the positive and neutral adult's functional control over children's response rates replicates other literatures. The differences have been small, though consistent. The relatively high responding in the presence of the neutral adult is probably explained by the social demands inherent in the procedures.

Previous research on incidental imitation has led to fairly firm conclusions regarding the efficacy of nurturance manipulations. Though the present results do not show the same picture, they may, in fact, be comparable to those other findings. Given the means and variances of the magnitudes found here, statistical differences would have been demonstrated

with only modest larger samples. However, these maneuvers are not necessarily good science. We should, instead, draw a more appropriate conclusion. Close scrutiny of these data and those from other research strongly suggests that the nurturance-incidental imitation relationship is not as strong as had been thought.

We should not lament the weakness of the relationship. In a positive light, they may be telling us that incidental imitation is not a basic developmental process; instead, it may be a substantive developmental outcome. If the latter is the case, we should begin investigating the conditions under which nurturance-facilitated incidental imitation will occur. For instance, current variables such as the tasks and the means by which they are displayed may be important. More important variables will probably be the adult-child interactional histories preceding imitation assessment, few have as yet been investigated. One line of fruitful research might be to consider nurturance a dimension on which people vary which, in turn, positively correlates with the probability that these adults reinforce imitation. Thus, the more similar is a nurturant adult in an experimental setting to nurturant, imitation-reinforcing adults elsewhere, then the more likely is nurturance facilitated imitation to be observed. Indeed, what is important may not be just that adults are nurturant with children, but <u>how</u>, <u>when</u>, and <u>under what conditions</u> they are so. A thorough analysis of these conditions might then lead us to an understanding of observational learning as a relationship which is largely acquired rather than a specific learning process.

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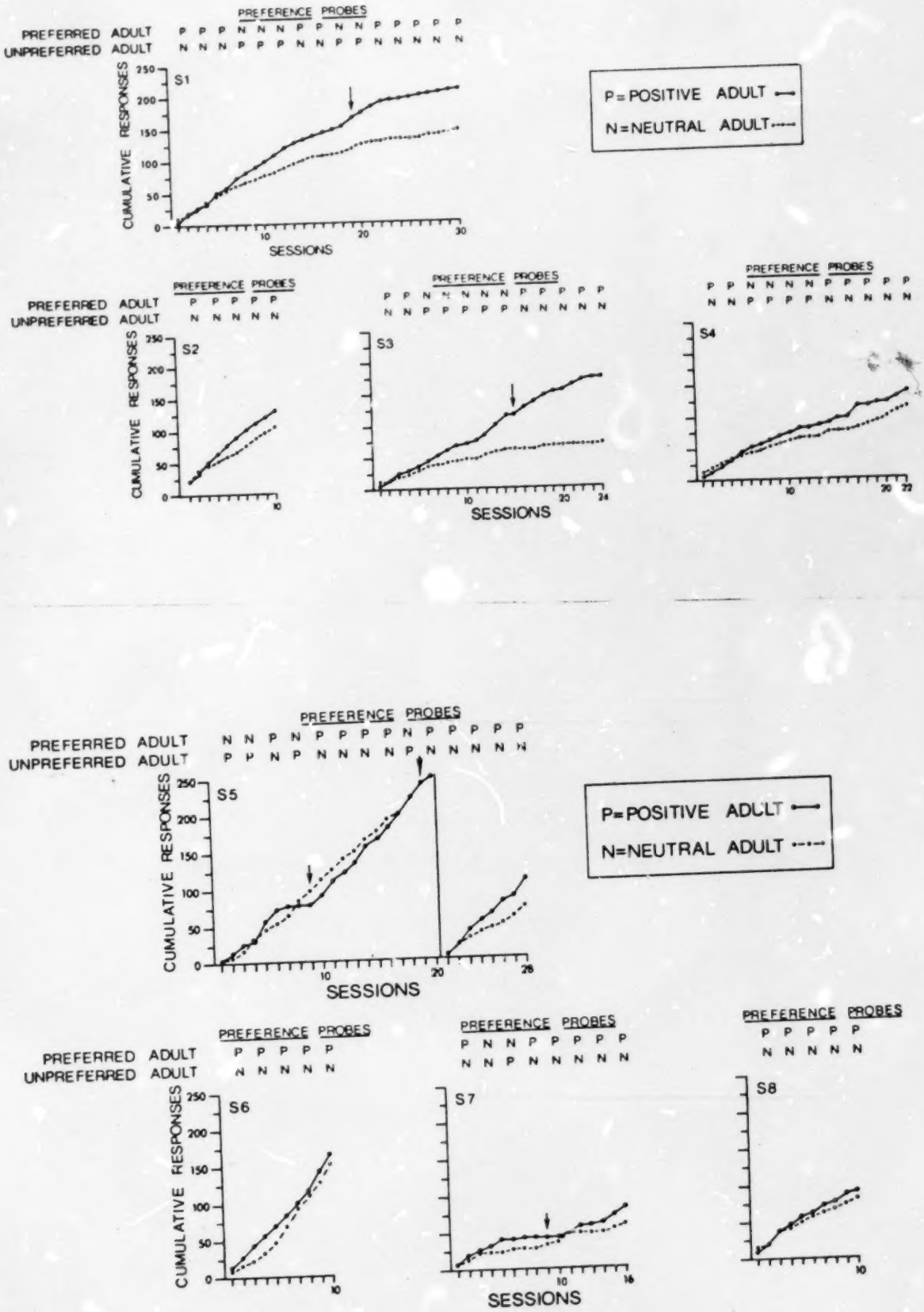
PREFERENCE PROBES
PREFERRED ADULT
UNPREFERRED ADULT
CUMULATIVE RESPONSES
SESSIONS
S1
S2
S3
S4
S5
S6
S7
S8
P=POSITIVE ADULT
N=NEUTRAL ADULT